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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **TOTSUKA, Shigeki**

Serial No.: **09/826,359**

Filed: **April 5, 2001**

Corres. and Mail
BOX AF

Group Art Unit: **2834**

Examiner: **CUEVAS, Pedro J.**

P.T.O. Confirmation No.: 3990

For: **STEPPING MOTOR AND DRIVING APPARATUS**

REQUEST FOR RECONSIDERATION UNDER 37 CFR §1.116
- EXPEDITED RESPONSE -
GROUP ART UNIT 2834

BOX AF

Commissioner for Patents
Washington, D.C. 20231

April 18, 2003

Sir:

In response to the Office Action dated **January 27, 2003**, Applicant respectfully requests reconsideration of the 35 USC §103(a) rejection of claims 1-3 as unpatentable over **Burri** in view of **Tanikoshi** (both previously cited).

As noted in Applicant's previous response of December 26, 2002, **Burri** discloses a stepper motor 10 including a six pole pair rotor 11 rotatable about an output shaft 12 acting as the rotor axis. A stator ring 14 of the motor 10 carries a four phase winding made up of windings 15 and 16. The motor is controlled by a stepper motor controller 17 which generates currents at its outputs 18 and 19, 181 and 191 in response to a pulse train 101 received at its input 102. Outputs 18 and 19 are respectively connected to stator windings 15 and 16 so that the currents generated excite the coils to drive the motor 10 in response to the input 101. Power is supplied to the arrangement by power supply connection 100 of controller 17. The rotation of the motor 11 is limited by a wiper 103, which is rigidly connected to output shaft 12, impinging upon an

end stop 104.

The Examiner has admitted that **Burri** fails to disclose a "detecting coil provided separately from the exciting coils so as to generate induction voltage according to rotation of the rotor", as recited in claims 1 and 3 of the instant application, but has cited **Tanikoshi** for teaching this feature.

Tanikoshi discloses a DC motor with Hall generator. Fig. 2 shows four stator windings L1'-L4' which are star-connected and are spaced 90° apart. Column 6, lines 3-7 disclose:

> ... a coil 21 for detecting the rotation speed of the rotor is mounted on each of the windings L1'-L4' and connected through a matching circuit 22 such as an impedance element to the output terminals A and B of the bridge circuit.

This is in contrast to the present invention, as recited in claim 1, which recites "wherein the exciting coils are provided along a peripheral surface of the rotor, and the detecting coil is provided at a center of a longest peripheral surface between adjoining exciting coils".

Apparently the Examiner has erroneously viewed Fig. 2 of **Tanikoshi** as showing detector coils 21 arranged between each of winding L1'-L4' but, as indicated in the above passage, this is not the case because each of the coils 21 are mounted on each of the windings L1'-L4', in contrast to the present invention.

On April 15, 2003, Applicant's attorney conducted an interview with the Examiner and his supervisor at the USPTO. The aforementioned arguments were presented and the Examiner's supervisor admitted that they appeared to overcome the rejection based on these references.

A Notice of Allowance is earnestly solicited.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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